

What is claimed is:

1. A method comprising:
 - sensing cardiac complexes;
 - measuring values for one or more cardiac parameters from each of the sensed cardiac complexes;
 - determining the sensed cardiac complexes are normal sinus rhythm (NSR) complexes based on the values of the one or more cardiac parameters for each of the sensed cardiac complexes;
 - calculating a NSR template as a function of the NSR complexes;
 - examining the NSR template after a selected time interval, where the NSR template is examined by:
 - measuring values for the one or more cardiac parameters from each sensed cardiac complex in a predetermined set of cardiac complexes;
 - comparing the values of the one or more cardiac parameters from each sensed cardiac complex in the predetermined set of cardiac complexes to one or more predetermined value ranges;
 - when the values of the one or more cardiac parameters are within the one or more predetermined value ranges, calculating values for cardiac signal parameter differences between the values of the one or more cardiac parameters from each sensed cardiac complex in the predetermined set of cardiac complexes and the values of the one or more cardiac parameters for the NSR complexes; and
 - when the values for the cardiac signal parameter differences are greater than one or more threshold values, updating the NSR template as a function of the predetermined set of cardiac complexes.
2. The method of claim 1, where examining the NSR template occurs at one or more selected time intervals after calculating the NSR template.

3. The method of claim 1, including calculating the one or more threshold values by the multiplication of a predetermined deviation percentage and each value of the one or more cardiac parameters for the NSR cardiac complexes used to calculate the NSR template.
4. The method of claim 1, including when the values of the cardiac signal parameter differences are less than or equal to the one or more threshold values, retaining the NSR template and the values of the one or more cardiac parameters for the NSR cardiac complexes used to calculate the NSR template.
5. The method of claim 1, including reinitiating the selected time interval after examining the NSR template.
6. The method of claim 1, where the predetermined set of cardiac complexes includes a programmable number of cardiac complexes in the range of 5 to 100 cardiac complexes.
7. A method comprising:
 - examining a NSR template after a selected time interval, wherein the NSR template is calculated from NSR complexes, the NSR complexes having values for NSR parameters, and wherein the NSR template is examined by:
 - sensing cardiac complexes;
 - measuring values of one or more cardiac parameters from each of the sensed cardiac complexes;
 - comparing the values of the one or more cardiac parameters to one or more predetermined value ranges;
 - when the values of the one or more cardiac parameters are within the

one or more predetermined value ranges, calculating values for cardiac signal parameter differences between the values of the one or more cardiac parameters and the values for the NSR parameters;

comparing the values for the cardiac signal parameter differences to the threshold values;

when the values for the cardiac signal parameter differences are greater than threshold values, replacing the values of the NSR parameters with the values of the one or more cardiac parameters; and

recalculating the NSR template as a function of the cardiac complexes.

8. The method of claim 7, where examining the NSR template occurs at one or more selected time intervals after calculating the NSR template.
9. The method of claim 7, including calculating the one or more threshold values by the multiplication of a predetermined deviation percentage and each of the values for NSR parameters.
10. The method of claim 7, including when the values of the cardiac signal parameter differences are less than or equal to the one or more threshold values, retaining the NSR template and the NSR parameters.
11. The method of claim 7, including reinitiating the selected time interval after examining the NSR template.
12. A system, comprising:
 - an endocardial lead including at least one defibrillation coil electrode and at least one pacing electrode; and
 - an implantable cardioverter defibrillator, where the endocardial lead

is physically and electrically coupled to the implantable cardioverter defibrillator and where the implantable cardioverter defibrillator includes:

input circuitry electrically coupled to the at least one defibrillation coil electrode and the at least one pacing electrode to sense cardiac complexes including normal sinus rhythm (NSR) cardiac complexes;

a morphology analyzer circuit coupled to the input circuitry where the morphology analyzer circuit measures values of cardiac parameters from sensed NSR cardiac complexes;

a template generating circuit coupled to the morphology analyzer circuit to calculate a normal sinus rhythm (NSR) template as a function of sensed NSR cardiac complexes; and

a template comparison circuit coupled to the template generating circuit to compare the values of the cardiac parameters for sensed cardiac complexes to predetermined value ranges after a selected time interval has elapsed, wherein the template comparison circuit calculates values for cardiac signal parameter differences between the values of the cardiac parameters from each of the sensed NSR cardiac complexes and the values of the cardiac parameters for the sensed cardiac complexes when the values of the cardiac parameters for the sensed cardiac complexes are within the predetermined value ranges, and when the values of the cardiac signal parameter differences are greater than threshold values the template generating circuit recalculates the NSR template as a function of the sensed cardiac complexes.

13. The system of claim 12, where the implantable cardioverter defibrillator includes a microprocessor coupled to the input circuitry, the morphology analyzer circuit, the template generating circuit, and the

template comparison circuit, wherein the microprocessor includes a timer for counting the selected time interval.

14. The system of claim 12, where the template comparison circuit calculates the threshold values by multiplying a predetermined deviation percentage and the values for the cardiac parameters of the sensed NSR cardiac complexes used to calculate the NSR template.